

Claims:

1 1. A message communication protocol for traversing a firewall in a network
2 comprising at least one router and at least one firewall and a plurality of nodes comprising a first
3 node protected by said firewall, said protocol comprising:

4 registering a first node with a router;
5 registering a second node with said router;
6 initiating by said first node a first connection between said first node and said router
7 through said firewall;

8 initiating by said second node a second connection between said second node and said
9 router;

10 maintaining said first connection between said first node and said router;
11 sending a message from said second node to said router;
12 sending said message from said router to said first node; and
13 receiving said message at said first node.

14 2. The protocol of Claim 1, wherein said first node comprises a first agent and said
15 node comprises a second agent for sending and receiving messages.

16 3. The protocol of Claim 2, wherein said router assigning a first ID and a second ID
17 to said first and second software agents, respectively.

18 4. A message communication protocol for traversing a firewall in a network
19 comprising at least one router and at least one firewall and a plurality of nodes wherein at least
20 one node is protected by said firewall, said protocol comprising:

21 registering a first node with a router;
22 registering a second node with said router;
23 establishing a first connection between said first node and said router;
24 sending a message for said second node from said first node to said router;
25 receiving at said router said message;

9 establishing a second connection between said second node and said router and
10 determining whether there is a message for said second node;
11 sending said message from said router to said second node; and
12 receiving said message at said second node.

1 5. The protocol of Claim 4, wherein said first node comprises a first agent and said
2 node comprises a second agent for sending and receiving messages.

1 6. The protocol of Claim 5, wherein said router assigning a first ID and a second ID
2 to said first and second software agents, respectively.

1 7. A computer program product for communicating in a network comprising at least
2 one router and at least one firewall and a plurality of nodes wherein at least one node is protected
3 by said firewall; the computer program product comprising a computer readable storage medium
4 and a computer program mechanism embedded therein, the computer program mechanism
5 comprising:

6 instructions for registering a first node with a first router;

7 instructions for initiating by said first node a first connection between said first node and
8 said first router through said firewall;

9 instructions for maintaining said first connection between said first node and said first
10 router; and

11 instructions for receiving a message at said first node, said message is originated from a
12 second node in said network and forwarded by said first router to said first node.

1 8. The computer program product of Claim 7 further comprising:

2 instructions for registering said second node with a second router;

3 instructions for initiating by said second node a second connection between said second
4 node and said second router; and

5 instructions for sending the message from said second node to said second router;

1 9. The computer program product of Claim 8 further comprising:

2 instructions for determining whether to send the message to a router or to said first node.

1 10. The computer program product of Claim 9 further comprising:
2 instructions for sending said message from said second router to said first node.

1 11. The computer program product of Claim 10 further comprising:
2 instructions for sending said message from said second router to said first router; and
3 instructions for sending said message from said first router to said first node.

1 12. A computer program product for communicating in a network comprising at least
2 one router and at least one firewall and a plurality of nodes, the computer program product for
3 receiving at a first node a message sent by a second node, said first node protected by a firewall
4 coupled to a first router; the computer program product comprising a computer readable storage
5 medium and a computer program mechanism embedded therein, the computer program
6 mechanism comprising:

7 instructions for establishing a connection between said first node and said first router;

8 instructions for determining whether there is a message at said first router for said first
9 node;

10 instructions for transferring said message at said first router to said first node when there
11 is a message in said first router for said first node; and

12 instructions for receiving said message at said first node.

1 13. The computer program product of Claim 12 further comprising:

2 instructions for registering said first node with said first router;

3 instructions for registering said second node with a second router;

4 instructions for sending a message from said second node to said second router; and

5 instructions for receiving at said second router said message.

1 14. The computer program product of Claim 13 further comprising:
2 instructions for determining at said second router whether to send the message to said first
3 router or to store the message in said second router.

1 15. The computer program product of Claim 14 further comprising instructions for
2 determining at said first router whether to send the message to a router or to store the message in
3 said first router.

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